STATEMENT OF BASIS
Elk Corporation of Alabama
Tuscaloosa, AL
Tuscaloosa County
413-0018

This proposed Title V Major Source Operating Permit renewal is issued under the provisions of ADEM Admin. Code r. 335-3-16. The above named applicant has requested authorization to perform the work or operate the facility shown on the application and drawings, plans and other documents attached hereto or on file with the Air Division of the Alabama Department of Environmental Management, in accordance with the terms and conditions of this permit.

Elk Corporation of Alabama was issued its existing Major Source Operating Permit (MSOP) on August 30, 2011, with an effective date of October 13, 2011 and with an expiration date of October 12, 2016. Per ADEM Rule 335-3-16-.12(2), an application for permit renewal shall be submitted at least six (6) months, but not more than eighteen (18) months, before the date of expiration of the permit. Based on this rule, the application for renewal was due to the Department no later than April 12, 2016, but no earlier than April 12, 2015. An application for permit renewal was received by the Department on April 6, 2016. Based on this the Department considers this to be a timely application.

Based on the Title V Permit application Elk Corporation of Alabama is a major source for Particulate Matter ($PM_{10}/PM_{2.5}$) and Volatile Organic Compounds (VOC).

Shingle Manufacturing Line 1

- **Coater (EP 5-1)**
- **Horizontal Coating Mixer (Fugitive)**
- **Sealant Applicator (Fugitive)**
- **Adhesive Applicator (Fugitive)**

A coater applies asphalt that has been mixed with filler to fiberglass mat. Application of granules is followed by application of sealant then pattern-cutting and the application of adhesive (laminator). The emissions from Line 1 are not controlled by a control device.

NSPS:
40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. Shingle Manufacturing Line 1 was constructed before 1976, therefore Subpart UU does not apply.

MACT:
40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing

operation that is an area source of hazardous air pollutant (HAP) emissions. Elk is an area source of HAP emissions, therefore the Shingle Manufacturing Line 1 is subject to Subpart AAAAAAA.

Emission Standards:

Opacity:

These sources shall not discharge into the atmosphere more than one 6-minute average opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

Particulate Matter (PM):

Particulate matter emissions from these units shall not exceed the allowable set by Rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)
$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

Where, E = Emissions in pounds per hour
P = Process weight per hour in tons per hour

ADEM Admin. Code r. 335-3-4-.04

Polycyclic Aromatic Hydrocarbon (PAH):

PAH emissions from the Coater (EP 5-1) shall not exceed 0.0002 lb/ton of asphalt roofing product manufactured.

40 CFR Part 63, Subpart AAAAAAA, §63.11561(b), Table 2

Expected Emissions:

The expected emissions are based on Asphalt Roofing Manufacturers Association (ARMA) and EPA emission factors and the expected asphalt throughput. The PAH emissions are based on the February 21, 2011 stack test. The expected emissions are shown below:

Pollutant	Coater (EP 5-1)		Coating Mixer (FE)		Sealant Applicator (FE)		Adhesive Applicator (FE)	
	lb/ton	TPY	lb/ton	TPY	lb/ton	TPY	lb/ton	TPY
$PM_{10}/PM_{2.5}$	3.48*	14.62	---	---	---	---	---	---
VOC	0.299	7.35	0.535	13.16	0.00276	0.0012	0.0213	0.0185
PAH	0.00015	11.17	---	---	---	---	---	---
Formaldehyde	0.013	0.320	0.0252	0.620	---	---	0.00006	0.00006
HAPs	0.0274	0.674	0.0314	0.772	0.00008	0.00003	0.00014	0.00012

*lb/hr

CAM:

These sources are uncontrolled; therefore, CAM does not apply.

Periodic Monitoring:
The Permittee must develop and make available for inspection a site-specific monitoring plan. The plan must specify the process parameters established during the initial compliance assessment and how they are being monitored and maintained to demonstrate continuous compliance.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(g)

The Permittee shall continuously (at least once every 15 minutes) monitor the coater asphalt temperature and coater asphalt throughput. The coater asphalt temperature and coater asphalt throughput shall be reduced to 3-hour averages. The 3-hour averages shall be less than the 3-hour average established in the most recent compliance test. Corrective action must be performed within (2) two hours if the coater asphalt temperature or coater asphalt throughput exceed the limits established in the most recent compliance test. Any repairs or observed problems shall be recorded.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(g)

The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 15% are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.

ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

ADEM Admin. Code r. 335-3-16-.05(c)

Recordkeeping and Reporting:
The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

ADEM Admin. Code r. 335-3-16-.05(c)

Filler Production

- **Roller Mill 1 with Baghouse (EP 6-1)**
- **Roller Mill 2 with Baghouse (EP 6-2)**
- **Three (3) Limestone Storage Silos with Baghouse (EP 6-3)**
- **Truck Unloading (Fug-1)**
- **Belt Conveyor 1 & 2 Transfer Points (Fug-2 & Fug-3)**
- **Rock Storage Tank (Fug-4)**

Washed limestone rock is unloaded from trucks into a hopper and transferred via two belt conveyors to a rock storage tank. From the storage tank, a sealed, vibratory-feed line transfers rock to two 10 TPH roller mills where it is ground to produce filler for roofing asphalt. Each mill has a heated air blower, a collection

cyclone, and a baghouse. Filler is transferred pneumatically into three limestone storage silos, vented to a common baghouse. From the storage silos, filler is transferred pneumatically to production areas. There is no truck loading from the storage silos.

NSPS:
40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. The filler production units were constructed after November 18, 1980, therefore the units are subject to Subpart UU.

40 CFR Part 60, Subpart OOO, "Standards of Performance of Nonmetallic Mineral Processing Plants" applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. Elk processes crushed limestone, but the units associated with the filler production have a capacity less than 25 tons per hour, therefore Subpart OOO does not apply.

MACT:
40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The filler production units are not considered asphalt coating equipment therefore Subpart AAAAAAA does not apply.

Emission Standards:

Opacity:

Roller Mill 1 with Baghouse (EP 6-1) and Roller Mill 2 with Baghouse (EP 6-2) shall not discharge into the atmosphere more than one 6-minute average opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

The Three (3) Limestone Storage Silos with Baghouse (EP 6-3), Truck Unloading (Fug-1), Belt Conveyor 1 & 2 Transfer Points (Fug-2 & Fug-3) and Rock Storage Tank (Fug-4) shall not discharge into the atmosphere emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

PM:

Particulate matter emission from the Roller Mill 1 with Baghouse (EP 6-1) shall not exceed 0.44 lb/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Particulate matter emission from the Roller Mill 2 with Baghouse (EP 6-2) shall not exceed 0.44 lb/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Particulate matter emission from the Three (3) Limestone Storage Silos with Baghouse (EP 6-3) shall not exceed 0.22 lb/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Expected Emissions:
The expected emissions are based on stack test data for stack tests conducted in 2002 and the expected hours of operation. The expected emissions are shown below:

Pollutant	Roller Mill 1 (EP 6-1)		Roller Mill 2 (EP 6-2)		Three (3) Storage Silos (EP 6-3)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
$PM_{10}/PM_{2.5}$	0.0073	0.032	0.19	0.83	0.019	0.08

CAM:
Roller Mill 1 with Baghouse (EP 6-1), Roller Mill 2 with Baghouse (EP 6-2), and Three (3) Limestone Storage Silos with Baghouse (EP 6-3)
These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Truck Unloading (Fug-1), Belt Conveyor 1 & 2 Transfer Points (Fug-2 & Fug-3) and Rock Storage Tank (Fug-4)
These sources are uncontrolled; therefore, CAM does not apply.

Periodic Monitoring:
The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9.
ADEM Admin. Code r. 335-3-16-.05(c)

If visible emissions in excess of 10% are noted from Roller Mill 1 (EP 6-1) and/or Roller Mill 2 (EP 6-2), maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.
ADEM Admin. Code r. 335-3-16-.05(c)

If any visible emissions are observed from the Three (3) Limestone Storage Silos with Baghouse (EP 6-3), Truck Unloading (Fug-1), Belt Conveyor 1 & 2 Transfer Points (Fug-2 & Fug-3) and Rock Storage Tank (Fug-4)), maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.
ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.
ADEM Admin. Code r. 335-3-16-.05(c)

A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of each baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differential shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.
ADEM Admin. Code r. 335-3-16-.05(c)

Recordkeeping and Reporting:
The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

Line 1 Filler Handling System

- **Filler Silo with Baghouse (EP 7-1)**
- **Daybin with Baghouse (EP 7-2)**
- **Rotary Kiln with 4.7 MMBtu/hr Burner with Baghouse (EP 7-3)**

Limestone filler is transferred pneumatically from the silos to the filler processing unit or from trucks to the main Filler Silo with Baghouse (EP 7-1) from which it is transferred pneumatically to a Daybin with Baghouse (EP 7-2). Prior to being mixed with coating asphalt, the filler is heated in a gas-fired Rotary Kiln with Baghouse (EP 7-3). The kiln is heated with a 4.7 MMBtu/hr natural gas fired burner.

NSPS:
40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. Line 1 Filler Handling System was constructed before 1976, therefore Subpart UU does not apply.

40 CFR Part 60, Subpart OOO, "Standards of Performance of Nonmetallic Mineral Processing Plants" applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. Elk processes crushed limestone, but the units associated with the line 1 filler handling system have a capacity less than 25 tons per hour, therefore Subpart OOO does not apply.

MACT:
40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The line 1 filler handling system units are not considered asphalt coating equipment therefore Subpart AAAAAAA does not apply.

Emission Standards:

Opacity:

These sources shall not discharge into the atmosphere more than one 6-minute average opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

PM:

Particulate matter emissions from the Filler Silo with Baghouse (EP 7-1) shall not exceed the lesser of 0.36 lbs/hr or the allowable set by Rule 335-3-4-.04.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD) & ADEM Admin. Code r. 335-3-4-.04

Particulate matter emissions from the Daybin with Baghouse (EP 7-2) shall not exceed the lesser of 0.36 lbs/hr or the allowable set by Rule 335-3-4-.04.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD) & ADEM Admin. Code r. 335-3-4-.04

Particulate matter emissions from the Rotary Kiln with Baghouse (EP 7-3) shall not exceed the lesser of 0.46 lbs/hr or the allowable set by Rule 335-3-4-.04.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD) & ADEM Admin. Code r. 335-3-4-.04

Sulfur Dioxide (SO_2):

Sulfur Dioxide emissions from the burner shall not exceed the allowable set by Rule 335-3-5-.01.

This section limits sulfur dioxide emissions from fuel burning equipment to 4.0 pounds per million BTU of heat input, for Category II counties.

ADEM Admin. Code R. 335-3-5-.01(1)(b)

Expected Emissions:

The expected emissions are based on AP-42 emission factors and the expected hours of operation. The expected emissions are shown below:

Pollutant	Filler Silo (EP 7-1)		Daybin (EP 7-2)		Rotary Kiln (EP 7-3)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
$PM_{10}/PM_{2.5}$	0.25	1.05	0.25	1.05	0.26	1.092

CAM:

Filler Silo with Baghouse (EP 7-1) & Daybin with Baghouse (EP 7-2)

These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Rotary Kiln with 4.7 MMBtu/hr Burner with Baghouse (EP 7-3)

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the unit has pre-controlled potential emissions greater than the major source threshold, is subject to an emission limit for PM, and uses a control device to achieve compliance with the applicable

emission limit. (See CAM Plan on page 9) The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring:

The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 10% are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.

ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

ADEM Admin. Code r. 335-3-16-.05(c)

A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of each baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differential across the Filler Silo with Baghouse (EP 7-1) & Daybin with Baghouse (EP 7-2) shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.

ADEM Admin. Code r. 335-3-16-.05(c)

PM CAM Plan for EP 7-3 (Rotary Kiln with 4.7 MMBtu/hr Burner Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Recordkeeping and Reporting:

The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

Line 1 Granule Handling and Storage

- **Line 1 Truck Unloading with Baghouse (EP 8-1)**
- **Line 1 Truck Bucket Elevator with Baghouse (EP 8-2)**
- **Line 1 Railcar Bucket Elevator with Baghouse (EP 8-3)**
- **Line 1 Headlap Silo with Bin Vent (EP 8-4)**
- **Line 1 Backsurfacing Silo with Bin Vent (EP 8-5)**
- **Line 1 Backsurfacing Receiving Silo with Bin Vent (EP 8-6)**

Granules are delivered to the site by truck and railcar. Railcars are unloaded into an underground hopper, from which the granular materials are transferred via belt conveyor to a bucket elevator, which in turn drops the material onto the tripper conveyor located above the granule caves and silos. This tripper conveyor transports the various materials to the correct storage location. The railcar, conveyor, and bucket elevator drop points are all vented to a baghouse. Trucks are unloaded at a separate underground hopper, from which the granular materials are transferred via screw conveyor to a second bucket elevator then via a belt conveyor to the same tripper conveyor described above. The tripper conveyor drops butt granules directly into the caves below the tripper; it drops headlap material directly into the headlap silo at the end of the tripper; and it transfers backsurfacing material to a screw conveyor, which transfers this material to the backsurfacing silo. Materials from the headlap silo are transferred via screw conveyor to a bucket elevator to another screw conveyor to use bin. Materials from the back surfacing silo are transferred pneumatically to a receiving bin, and then via screw conveyor to a use bin. Butt granule is transferred from the storage caves via payloader to a run bin; these materials are then transferred via belt conveyor to a use bin.

NSPS:

40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. The line 1 granule handling and storage units were constructed after November 18, 1980, therefore the units are subject to Subpart UU.

40 CFR Part 60, Subpart OOO, "Standards of Performance of Nonmetallic Mineral Processing Plants" applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. Elk processes crushed limestone, but the units associated with the line 1 granule handling and storage have a capacity less than 25 tons per hour, therefore Subpart OOO does not apply.

MACT:

40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The line 1 granule handling and storage units are not considered asphalt coating equipment therefore Subpart AAAAAAA does not apply.

Emission Standards:

Opacity:

These units shall not discharge into the atmosphere emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

PM:
Particulate matter emissions from these units shall not exceed the allowable set by Rule 335-3-4-.04.

$E = 3.59 (P)^{0.62}$ (P less than 30 tons per hour)
$E = 17.31(P)^{0.16}$ (P greater than 30 tons per hour)

Where, E = Emissions in pounds per hour
P = Process weight per hour in tons per hour
ADEM Admin. Code r. 335-3-4-.04

Expected Emissions:
The expected emissions are based on AP-42 emission factors and the expected hours of operation. The expected emissions are shown below:

Pollutant	$PM_{10}/PM_{2.5}$	
	lb/hr	TPY
Line 1 Truck Unloading (EP 8-1)	0.113	0.016
Line 1 Truck Bucket Elevator (EP 8-2)	0.065	0.023
Line 1 Railcar Bucket Elevator (EP 8-3)	0.0516	0.088
Line 1 Headlap Silo (EP 8-4)	0.047	0.038
Line 1 Backsurfacing Silo (EP 8-5)	0.0003	0.00105
Line 1 Backsurfacing Receiving Silo (EP 8-6)	0.0003	0.00105

CAM:
These units are subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit. (See CAM Plan on pages 12-17) The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring:
The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If any visible emissions are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.
ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.
ADEM Admin. Code r. 335-3-16-.05(c)

PM CAM Plan for EP 8-1 (Line 1 Truck Unloading Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 8-2 (Line 1 Truck Bucket Elevator Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 8-3 (Line 1 Railcar Bucket Elevator Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 8-4 (Line 1 Headlap Silo Bin Vent)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 8-5 (Line 1 Backsurfacing Silo Bin Vent)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 8-6 (Line 1 Backsurfacing Receiving Silo Bin Vent)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Recordkeeping and Reporting:

The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

Shingle Manufacturing Line 2

- **Asphalt Coater (EP 2-1)**
- **Horizontal Mixer (EP 2-1)**
- **Surge Tank (EP 2-1)**
- **Sealant Applicator (EP 2-1)**
- **Sealant Use Tank (EP 2-1)**
- **Adhesive Applicator (EP 2-1)**
- **Adhesive Mixture Tank (EP 2-1)**
- **Two (2) 100,000 Gallon Asphalt Storage Tanks (EP 2-1)**
- **Two (2) 15,000 Gallon Sealant and Adhesive Storage Tank (EP 2-1)**
- **Granule Application System and Filler Heater with Baghouse (EP 2-2)**

A coater applies asphalt that has been mixed with filler to fiberglass mat. Application of granules is followed by application of sealant and adhesive (laminator). The emissions from the coater, mixer, sealant and adhesive applicators, and the asphalt storage tanks are controlled by a single high velocity air filter (HVAF), emission point 2-1. The emissions from granule application system are controlled by a baghouse common to the Filler Heater, emission point 2-2.

NSPS:
40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. The Shingle Manufacturing Line 2 units were constructed after November 18, 1980, therefore the units are subject to Subpart UU.

MACT:
40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. Elk is an area source of HAP emissions, therefore the Shingle Manufacturing Line 2 is subject to Subpart AAAAAAA.

Emission Standards:

Opacity:

The exhaust gases from the Asphalt Coater (EP 2-1) shall not exceed an opacity greater than 20%.

40 CFR Part 60, Subpart UU, §60.472(a)(2)

The Asphalt Coater capture system shall not discharge any visible emission for more than 20 percent of any period of consecutive valid observations totaling 60 minutes.

40 CFR Part 60, Subpart UU, §60.472(a)(3)

The exhaust gases from any asphalt storage tank shall not exceed an opacity greater than 0%, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank are ducted to a control device for a saturator/coater, the combined emissions shall meet the emission limit contained in 40 CFR 60 Subpart UU, §60.472(a) during the time the saturator/coater control device is operating. At any other time the asphalt storage tanks must meet the opacity limit specified above for storage tanks.

40 CFR Part 60, Subpart UU, §60.472(c)

The Granule Application System and Filler Heater (EP 2-2) shall not discharge into the atmosphere more than one 6-minute average opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

PM:

Particulate Matter emissions from the Asphalt Coater (EP 2-1) shall not exceed 0.06 lb/ton of asphalt shingles produced.

40 CFR Part 63, Subpart AAAAAAA, §63.11561(b), Table 2

Particulate Matter emissions from the Granule Application System and Filler Heater (EP 2-2) shall not exceed 9.24 lbs/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Expected Emissions:

The expected emissions are based on Asphalt Roofing Manufacturers Association (ARMA) and EPA emission factors and the expected asphalt throughput. The PAH emissions are based on the February 21, 2011 stack test. The expected emissions are shown below:

Pollutant	HVAF (EP 2-1)		Granule Application System and Filler Heater (EP 2-2	
	lb/ton	TPY	lb/hr	TPY
$PM_{10}/PM_{2.5}$	0.392*	1.646	4.62*	19.4
VOC	1.21	57.69	---	---
PAH	0.00015	14.76	---	---
Formaldehyde	0.0496	2.43	---	---
HAPs	0.0819	3.997	---	---

*lb/hr

CAM:

HVAF (EP 2-1):

These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Granule Application System and Filler Heater (EP 2-2):

This unit is subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit. (See CAM Plan on page 21) The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring:

The inlet temperature of the HVAF (EP 2-1) shall be continuously monitored and recorded. The monitoring device shall have an accuracy of plus or minus 15 degrees Celsius over its range.

40 CFR Part 60, Subpart UU, §60.473

The Permittee must install, operate, and maintain a continuous parameter monitoring system as specified in §63.11563(c), §63.11563(d), and §63.11563(e).

40 CFR Part 63, Subpart AAAAAAA, §63.11563(c), §63.11563(d), & §63.11563(e)

The Permittee shall continuously (at least once every 15 minutes) monitor the HVAF inlet temperature and pressure differential. The HVAF inlet temperature and pressure differential shall be reduced to 3-hour averages. The 3-hour averages shall be less than the 3-hour average established in the most recent compliance test. Corrective action must be performed within (2) two hours if the HVAF inlet temperature and pressure differential exceed the limits established in the most recent compliance test. Any repairs or observed problems shall be recorded.

40 CFR Part 63, Subpart AAAAAAA, §63.11563(a), Table 4

The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If visible emissions in excess of 15% opacity are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.

ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

ADEM Admin. Code r. 335-3-16-.05(c)

PM CAM Plan for EP 2-2 (Granule Application System and Filler Heater Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Recordkeeping and Reporting:

The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all inlet temperature of the HVAF readings. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

Line 2 Filler Handling System

- **1440 Ton Filler Silo with Baghouse (EP 3-1)**
- **30 Ton Filler Receiving Bin with Baghouse (EP 3-2)**

Limestone filler is transferred pneumatically from two existing roller mills, from the existing silos for the filler production unit, or from trucks into a 1440 ton filler silo with baghouse (EP 3-1). From the 1440 ton filler silo, filler is transferred pneumatically to a 30 ton filler receiving bin with baghouse (EP 3-2). Prior to being mixed with coating asphalt, the filler is heated in a filler heater with the emissions routed to the baghouse common to the Granule Application System (EP 2-2). The heating is supplied from the heat transfer fluid (HTF) system.

NSPS:

40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. Line 2 Filler Handling System units were constructed after November 18, 1980, therefore the units are subject to Subpart UU.

40 CFR Part 60, Subpart OOO, "Standards of Performance of Nonmetallic Mineral Processing Plants" applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. Elk processes crushed limestone, but the units associated with the line 2 filler handling system have a capacity less than 25 tons per hour, therefore Subpart OOO does not apply.

MACT:

40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The line 2 filler handling system units are not considered asphalt coating equipment therefore Subpart AAAAAAA does not apply.

Emission Standards:

Opacity:

These units shall not discharge into the atmosphere emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

PM:

Particulate matter emissions from the 1440 ton Filler Silo (EP 3-1) shall not exceed 0.54 lb/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Particulate matter emissions from the 30 ton Filler Receiving Bin (EP 3-2) shall not exceed 0.37 lb/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Expected Emissions:

The expected emissions are based on AP-42 emission factors and the expected hours of operation. The expected emissions are shown below:

Pollutant	1,440 ton Filler Silo (EP 3-1)		30 ton Filler Receiving Bin (EP 3-2)	
	lb/hr	TPY	lb/hr	TPY
$PM_{10}/PM_{2.5}$	0.267	1.12	0.183	0.77

CAM:
These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Periodic Monitoring:
The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If any visible emissions are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.
ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.
ADEM Admin. Code r. 335-3-16-.05(c)

A properly maintained and operated device shall be utilized to measure the pressure differential between the inlet and exhaust of each baghouse to determine if the pressure differential is within the manufacturer's recommended operating range. The pressure differentials shall be checked on at least a weekly basis. Whenever the pressure differential is outside the manufacturer's recommended range, maintenance inspections and/or corrective action to bring the pressure differential within the manufacturer's recommended range are to be initiated within two hours.
ADEM Admin. Code r. 335-3-16-.05(c)

Recordkeeping and Reporting:
The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.
ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.
ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.
ADEM Admin. Code r. 335-3-16-.05(c)

Line 2 Granule Handling and Storage

- **Line 2 Granule Storage Transfer Points and 24 Storage Silos with Baghouse (EP 4-1)**
- **Line 2 Butt Granule Unloading and Transfer Points with Baghouse (EP 4-2)**
- **Line 2 Headlap/Backsurfacing Unloading and Transfer Points with Baghouse (EP 4-3)**

Granules are delivered to the site by truck and railcar. The truck or railcar empties granules into an underground hopper and onto a belt conveyor. The drop points from the hopper to the conveyor are hooded and vented to a baghouse. The granules are then transferred into a bucket elevator and lifted to a shuttle conveyor located above the granule storage silos. The bucket elevator and the drop points onto the shuttle conveyors are all vented to a baghouse. The shuttle conveyor transports the granules to the correct storage silo. The granules are then dropped into an enclosed chute that travels along the shuttle conveyor and can align with the top of each storage silo. The drop point from the conveyor into the chute is enclosed and vented to baghouse. The granules are then dropped from the storage silos onto another conveyor where they are then transferred to the shingle manufacturing line. The drop points from the silos for the fine, back surfacing granules are vented to a baghouse.

The emissions from line 2 granule storage transfer points and 24 silos are controlled by a single baghouse (EP 4-1). The line 2 butt granule unloading and transfer point emissions are controlled by a single baghouse (EP 4-2). The line 2 headlap/back surfacing unloading and transfer point emissions are controlled by a single baghouse (EP 4-3).

NSPS:

40 CFR Part 60 Subpart UU, "Standards of Performance for Asphalt Processing and Asphalt Roofing Manufacture", applies to each saturator and each mineral handling and storage facility at asphalt roofing plants that commence construction or modification after November 18, 1980. Line 2 Granule Handling and Storage units were constructed after November 18, 1980, therefore the units are subject to Subpart UU.

40 CFR Part 60, Subpart OOO, "Standards of Performance of Nonmetallic Mineral Processing Plants" applies to fixed sand and gravel plants and crushed stone plants with capacities of 23 megagrams per hour (25 ton per hour) or more. Elk processes crushed limestone, but the units associated with the Line 2 Granule Handling and Storage have a capacity less than 25 tons per hour, therefore Subpart OOO does not apply.

MACT:

40 CFR Part 63 Subpart AAAAAAA, "National Emission Standards for Hazardous Air Pollutants for Area Sources: Asphalt Processing and Asphalt Roofing Manufacturing" applies to each blowstill or asphalt coating equipment located at an asphalt processing operation and/or asphalt roofing manufacturing operation that is an area source of hazardous air pollutant (HAP) emissions. The line 2 granule handling and storage units are not considered asphalt coating equipment therefore Subpart AAAAAAA does not apply.

Emission Standards:

Opacity:

These units shall not discharge into the atmosphere emissions with opacity greater than 1%.

40 CFR Part 60, Subpart UU, §60.472(d)

PM:

Particulate Matter emissions from the Line 2 Granule Storage Transfer Points and 24 Storage Silos with Baghouse (EP 4-1) shall not exceed 1.30 lbs/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Particulate Matter emissions from the Line 2 Butt Granule Unloading and Transfer Points with Baghouse (EP 4-2) shall not exceed 0.82 lbs/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Particulate Matter emissions from the Line 2 Headlap/BackSurfacing Unloading and Transfer Points with Baghouse (EP 4-3) shall not exceed 0.82 lbs/hr.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Expected Emissions:

The expected emissions are based on AP-42 emission factors and the expected hours of operation. The expected emissions are shown below:

Pollutant	Line 2 Granule Storage Transfer Points and 24 Storage Silos (EP 4-1)		Line 2 Butt Granule Unloading and Transfer Points (EP 4-2)		Line 2 Headlap/Backsurfacing Unloading and Transfer Points (EP 4-3)	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
$PM_{10}/PM_{2.5}$	0.65	2.73	0.41	1.72	0.41	1.72

CAM:

These units are subject to the Compliance Assurance Monitoring (CAM) for particulate matter (PM) only; because the units have pre-controlled potential emissions greater than the major source threshold, are subject to an emission limit for PM, and use control devices to achieve compliance with the applicable emission limit. (See CAM Plan on pages 26-28) The following is also being performed to ensure that the control equipment is operating correctly.

Periodic Monitoring:

The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9. If any visible emissions are noted, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.

ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.

ADEM Admin. Code r. 335-3-16-.05(c)

PM CAM Plan for EP 4-1 (Line 2 Granule Storage Transfer Points and 24 Storage Silo Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 4-2 (Line 2 Butt Granule Unloading and Transfer Points Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

PM CAM Plan for EP 4-3 (Line 2 Headlap/Backsurfacing Unloading and Transfer Points Baghouse)

	Indicator 1
I. Indicator	Pressure Differential
Measurement Approach	Pressure Gauge
II. Indicator Range	While the unit is operating, an excursion is defined as a pressure differential less than 0.15 inches of H_20 or greater than 8 inches of H_20. Excursions trigger an inspection, corrective action, and a reporting requirement.
III. Performance Criteria A. Data Representativeness	The pressure differential is being measured between the inlet and outlet of the baghouse.
B. Verification of Operation Status	Not Applicable
C. QA/QC Practices and Criteria	The pressure gauge will be calibrated and maintained per the manufacturer's recommendation.
D. Monitoring Frequency	Once daily during operation
E. Data Collection Procedures	The pressure differential will be recorded with date and time.
F. Averaging Period	Instantaneous

Recordkeeping and Reporting:

The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.

ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall maintain a record of all differential pressure readings performed. This shall include all problems observed, excursions, and corrective actions taken. Each record shall be maintained for a period of 5 years.

ADEM Admin. Code r. 335-3-16-.05(c)

Heat Transfer Fluid Heating System (HTF)

The Heat Transfer Fluid (HTF) system consist of three heaters, main supply pump, expansion tank tempered loop system, and safety relief system. The HTF system is used to provide a heated jacket of fluid on the storage tanks and various process equipment and process piping. The HTF heater consists of three

natural gas fired spiral tube heaters with a rated input capacity of 6 MMBtu/hr each. The heaters shall burn natural gas only.

NSPS:

40 CFR Part 60, Subpart Dc – "Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units" applies to each steam generating unit for which construction, modification, or reconstruction commenced after June 9, 1989 and that has a maximum design heat input capacity of 100 MMBtu/hr or less, but greater than or equal to 10 MMBtu/hr. These spiral tube heaters have a capacity less than 10 MMBtu/hr, therefore Subpart Dc does not apply.

MACT:

40 CFR Part 63, Subpart DDDDD – "National Emission Standards for Hazardous Air Pollutants for Major Sources: Industrial, Commercial, and Institutional Boilers and Process Heaters" applies to all industrial, commercial, or institutional boilers or process heaters located at a major source of HAPs. Elk is considered an area source for HAPs, therefore Subpart DDDDD does not apply to the burners/process heaters.

40 CFR Part 63, Subpart JJJJJJ – "National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources" applies to all industrial, commercial, or institutional boilers located at an area source of HAPs. Subpart JJJJJJ does not apply to process heaters, therefore Subpart JJJJJJ does not apply to the burners/process heaters.

Emission Standards:

These units shall combust natural gas only.

ADEM Admin. Code r. 335-3-14-.04 (Anti-PSD)

Opacity:

This source shall not discharge into the atmosphere more than one 6-minute average opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

PM:

Particulate matter emissions from each burner shall not exceed the allowable set by Rule 335-3-4-.03(1).

This section limits particulate matter emissions from fuel burning equipment. This is calculated using the fuel burning equipment equation:

$$E = 1.38H^{-0.44}$$

Where E = Emissions in pounds per million BTU

H = Heat Input in millions of BTU/hr

ADEM Admin. Code R. 335-3-4-.03(1)

SO_2:

Sulfur Dioxide emissions from each burner shall not exceed the allowable set by Rule 335-3-5-.01.

This section limits sulfur dioxide emissions from fuel burning equipment to 4.0 pounds per million BTU of heat input, for Category II counties.

ADEM Admin. Code R. 335-3-5-.01(1)(b)

Expected Emissions:

The expected emissions are based on AP-42 emission factors and the expected hours of operation. The expected emissions are shown below:

Pollutant	HTF Burners	
	lb/hr	TPY
PM_{10}/ $PM_{2.5}$	0.095	0.565
SO_2	0.0075	0.0328
NO_X	1.25	5.47
CO	1.05	4.60
VOC	0.0688	0.301

CAM:

This source is uncontrolled; therefore, CAM does not apply.

Periodic Monitoring:

This source is subject to no additional specific requirements other than those listed in the general Permit Provisos.

Recordkeeping and Reporting:

This source is subject to no additional specific requirements other than those listed in the general Permit Provisos.

Storage Tanks

- **Tank 4 – 22,600 Gallon Coating Asphalt Still #4**
- **Tank 6 – 13,600 Gallon Sealant Still #6 vented to the tank heater air intake**
- **Tank 8 – 25,000 Gallon Asphalt Flux Still #8 vented to the tank heater air intake**
- **1,200 Gallon Laminant Blend Tank & 1,200 Gallon Filled Asphalt Surge Tank (EP 9-1)**

Elk Corporation operates fourteen fixed roof asphalt storage tanks. Two 100,000 gallon oxidized asphalt tanks and two 15,000 gallon tanks are permitted under Shingle Manufacturing Line 2. The facility contains three 22,600 gallon coating asphalt tanks that were built in 1948, a 13,600 gallon asphalt flux tank that was built in 1972, and a 7,700 gallon laminate storage tank that was built in 1960; therefore, these tanks are not subject to 40 CFR 60 Subpart UU. Also, these tanks are considered insignificant because they are not subject to a rule and because the criteria pollutant emissions are lower than 5 tons per year, and the HAP emissions are lower than 0.5 tons per year.

40 CFR 60.470(b) states that any asphalt storage tank or blowing still that processes and/or stores asphalt used for roofing only or for roofing and other purposes, and that commences construction or modification after November 18, 1980, is subject to the requirements of this subpart.

The facility operates five additional tanks which are either subject to NSPS Subpart UU and/or a significant source of VOCs. The facility operates a 22,600 gallon coating asphalt tank #4 that was built in 1948; therefore, not subject to NSPS Subpart UU. The emissions from this tank are uncontrolled. The facility operates a 25,000 gallon asphalt flux still #8 that was built in 2004 and a 13,600 gallon sealant still #6 that was built in 1986; therefore, subject to NSPS Subpart UU. The emissions from these two units are vented to heater air intake. The facility operates a 1,200 gallon laminant blending tank constructed in 1987 and a 1,200 gallon filled asphalt storage/surge tank constructed in 1983; therefore, these tanks are subject to NSPS Subpart UU. The two tanks are vented to a mist eliminator (EP 9-1).

Emission Standards:

Opacity:

The exhaust gases from Tank 6, Tank 8, and EP 9-1 shall not exceed an opacity greater than 0%, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing. The control device shall not be bypassed during this 15-minute period. If, however, the emissions from any asphalt storage tank are ducted to a control device for a saturator/coater, the combined emissions shall meet the emission limit contained in 40 CFR 60 Subpart UU, §60.472(a) during the time the saturator/coater control device is operating. At any other time the asphalt storage tanks must meet the opacity limit specified above for storage tanks.

40 CFR Part 60, Subpart UU, §60.472(c)

Tank 4 shall not discharge into the atmosphere more than one 6-minute average opacity greater than twenty percent (20%) in any 60-minute period. At no time shall any source discharge a 6-minute average opacity of particulate emissions greater than forty percent (40%). Opacity will be determined by 40 CFR Part 60, Appendix A, Method 9, unless otherwise specified in the Unit Specific provisos of this permit.

ADEM Admin. Code r. 335-3-4-.01(1)

Expected Emissions:

The expected emissions were calculated using Elk's in-house emission factors and the expected throughput for each storage tank. The expected emissions are shown below:

Pollutant	VOCs	
	lb/hr	TPY
Tank 4	2.07	9.05
Tank 6	0.037	0.16
Tank 8	0.162	0.71
EP 9-1	2.29	10.05

CAM:

Tank 6, Tank 8, and EP 9-1:

These units do not have pre-controlled potential emissions greater than any major source threshold; therefore, CAM does not apply.

Tank 4:
This source is uncontrolled; therefore, CAM does not apply.

Periodic Monitoring:
The Permittee shall perform a visual check, at least once per week, of the stacks associated with these units. This check shall be performed by a person familiar with Method 9.
ADEM Admin. Code r. 335-3-16-.05(c)

If visible emissions in excess of 15% are noted from Tank 4, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.
ADEM Admin. Code r. 335-3-16-.05(c)

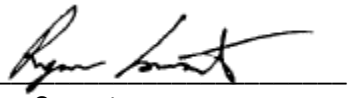
If any visible emissions are observed from Tank 6, Tank 8, or EP 9-1, maintenance inspections and/or corrective action to reduce the visible emission are to be initiated within two (2) hours. Any repairs of observed problems shall be recorded.
ADEM Admin. Code r. 335-3-16-.05(c)

After the corrective action has been performed, the permittee shall conduct another visual check to ensure that the visible emissions have been reduced.
ADEM Admin. Code r. 335-3-16-.05(c)

Recordkeeping and Reporting:
The Permittee shall maintain a record of all inspections, to include visible observations performed to satisfy the requirements of the Emission Monitoring section of this Permit. This shall include problems observed and corrective actions taken. The records shall be retained for at least five (5) years from the date of generation and shall be available upon request.
ADEM Admin. Code r. 335-3-16-.05(c)

The Permittee shall submit a written report of exceedance of the stack opacity to the Department semi-annually.
ADEM Admin. Code r. 335-3-16-.05(c)

Recommendation:
Based on the above analysis and pending the resolution of any comments received during the 30-day public comment period and 45-day EPA review, I recommend issuing Elk Corporation of Alabama's Title V MSOP renewal.



Ryan Cowart
Industrial Minerals Section
Energy Branch
Air Division

July 5, 2016
Date